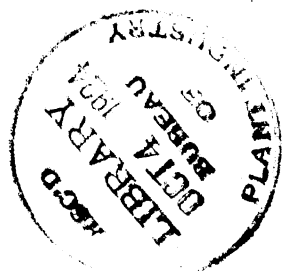


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PLANT IMMIGRANTS

No. 218

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A PROMISING PLUM

TWO USEFUL BAMBOOS

Illustrations

Plate 355. Pere Louis, an excellent dwarf mango.
(*Mangifera indica*)

Plate 356. Julie, a dwarf mango from the West Indies.
(*Mangifera indica*)

United States Department of Agriculture
BUREAU OF PLANT INDUSTRY
OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION

WASHINGTON, D. C.

ANNOUNCEMENTS OF IMPORTANCE TO ALL EXPERIMENTERS

Within the next six weeks this Office expects to send out, to all experimenters, the Thirteenth Annual List of plants available for distribution. It is desired at this time to point out the importance of filling in the check lists which accompany the Annual List and returning these check lists AT ONCE to this Office. Check lists are handled in the order of their receipt, and therefore promptness in returning these lists will allow the Office to supply more completely the plants requested.

This number issued September 30, 1924.

Plants recently received, not yet available for distribution.

CEREUS VALIDUS (Cactaceae), 58988. From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. This picturesque, half-climbing cactus yields a fruit the size of a goose egg, entirely devoid of spines or spicules, pleasing magenta red in color, and of very good taste. Dr. Prochowsky remarks that he has seen no other fruit which is so "melting" in character, and that its flesh resembles the "snows" sold in Latin American countries, prepared by flavoring real snow or finely chopped ice with fruit juice and sugar.

Very little attention has been given to this species in tropical America, and Dr. Proschowsky deserves credit for insisting that its economic value be recognized. For some reason cactus fruits are not so popular with North Americans as they are with the inhabitants of Latin American countries. The fruits of several *Opuntias* are highly esteemed in Mexico, not to mention those of one or two native species of *Cereus*. Their refreshing character makes them particularly grateful to persons living in hot, arid regions.

CITRUS SINENSIS (Rutaceae), 58989. **Orange.** From Soledad, Cienfuegos, Cuba. Budwood presented by R. M. Grey, superintendent, Cuban Gardens. "Harvard No. 1." In forwarding budwood of this orange, Mr. Grey says of it: "This is one of the best seedlings we have ever raised here, and it has been in cultivation for many years. The tree forms a compact head, with deep rich green foliage; it is drought-resistant and has borne splendid crops every year. The fruit is medium to large, starts to ripen early in November and remains firm and juicy until May. The skin is rich orange, of medium thickness; the flesh is of fine texture and quality, sweet in flavor and few-seeded." Orange growers in California and in Florida will be interested in testing this variety, which will have to be grown in quarantine at Washington, however, before it can be propagated and distributed to citrus-growing sections of the country. The danger of introducing bacterial or fungous diseases which might imperil the citrus industry has made this procedure necessary.

MALUS sp. (Malaceae), 58975. **Garras apple.** From Tripoli, North Africa. Budwood presented by Dr. E. O. Fenzi. From the little known region of Tripoli our old correspondent, Dr. Fenzi, has sent us budwood of this interesting apple, which he describes as an extra early native variety called Garras. The fruit, which he says is of good size and very juicy, ripens at the same time as the earliest apricots. Since it comes from a hot semiarid region, this variety is worth testing in the Southwestern States and California, where it may prove of value as an early apple for sections where most of the standard American sorts can not be grown successfully.

MALUS sp. (Malaceae), 59324. **Feriki apple.** From Chaseki, Athens, Greece. Scions presented by P. O. Anagnostopoulos, director, Horticultural Section. After several unsuccessful shipments, we have finally secured from Mr. Anagnostopoulos scions of three pears and one apple, all of them recommended as standard varieties in Greece. These are described in this number of Plant Immigrants, the notes having been sent in a recent letter from Mr. Anagnostopoulos, who informs us that the scions were obtained by him from a fruit grower, Hercules Papatheodoron, whose orchards are situated a few miles from Athens.

This number, the Feriki apple, is characterized as follows: "Trees of good size and thrifty, bearing regularly and heavily. Fruit conical in shape, mostly one-sided, color yellow, with cheek streaked red. Quality good, time of ripening September. This variety is a good keeper; it may be held until spring without cold storage."

MANGIFERA INDICA (Anacardiaceae), 59645 and 59646. **Mango.** From Soledad, Cienfuegos, Cuba. Cuttings collected by Dr. David Fairchild, United States Department of Agriculture. During the past quarter of a century the Office of Foreign Seed and Plant Introduction has introduced many fine grafted mangos from the Asiatic tropics. In Florida, in Cuba, in Porto Rico and elsewhere in tropical America, most of these varieties have failed to bear satisfactory crops. Except in regions where the flowering season is accompanied by dry weather, the Indian mangos do not seem likely to prove highly satisfactory.

This condition of affairs has stimulated the production of hybrid seedlings in tropical America, the particular object of most experimenters being to combine the fine quality and freedom from fiber of the best Indian sorts with the productiveness and resistance to disease which characterizes tropical American seedling mangos in general. The Haden mango, which is rapidly becoming the leading commercial sort in southern Florida, originated as a chance seedling of an excellent fiberless sort introduced from India by the Department of Agriculture in 1889.

Dr. Fairchild has now sent from Cuba budwood of two promising new sorts, originated by H. A. Van Hermann, of Santiago de las Vegas. One of these is the result of a cross between Mulgoba and the well-known "Philippine mango" or "Mango Filipino" of Cuba, a race which came originally from the Philippines via Mexico, and is valuable for its freedom from disease and the fine quality of its fruit.

The second variety is described as an improved form of "Mango Chino," a large-fruited Cuban variety of limited distribution (see "The Mangos of Cuba," in Proc. Am. Pom. Soc., 1915, for complete description). Both of these introductions will be tested at Miami, Fla., where their behavior will be watched with interest.

59645. "MULGO-FIL." Originated by H. A. Van Hermann, at Finca Mulgoba, Rancho Boyeros, Cuba, about 1917, by crossing the Mulgoba and the "Philippine mango." The fruit is pink, yellow and red, resembling the Mulgoba but with the long flat shape of the Philippine variety, with a depression on one side. The fruits are borne in clusters. The seed is flat, and the quality of the flesh is good. The name, applied by Mr. Van Hermann, indicates the hybrid origin of the variety.

59646. "VAN HERMANN." An improved Chino mango discovered by Mr. Van Hermann. Unlike most other varieties it does not harbor the black fly because of its open habit of growth and comparatively scanty foliage. Furthermore the fruits do not spot with *Colletotrichum* as do ordinary mangos. The flesh is free from fiber and of good quality, and the tree is a regular bearer at Finca Mulgoba. It is named in honor of its discoverer, Mr. Van Hermann.

PASPALUM IRIDIFOLIUM (Poaceae), 58966. Grass. From Guayaquil, Ecuador. Seeds presented by Dr. A. S. Hitchcock, United States Department of Agriculture. During his recent journey through the Andean countries, Dr. Hitchcock, of this Department, secured seeds of this little-known species of *Paspalum*, which will be tested as a forage plant in the southern United States and other regions. It seems particularly interesting in view of the results now being obtained with two other *Paspalums* from tropical America, *P. notatum* and *P. dilatatum*, both of which are being used with success in various parts of the world. Dr. Hitchcock has furnished the following comprehensive notes on the distribution and use of *P. iridifolium*: "This South American grass is used at low altitudes for forage, being cut green and fed as is done with Guinea grass. I saw it first on the estate of J. A. Cleveland, of Guayaquil, in the rain belt at the foot of the mountains near Bucay. The grass is set out from plants obtained by division of the roots. It is called there 'gramalote.' I suspect this name is the same as gamalote which is used for a different species in some other countries. The grass appears to be looked upon with favor, as it is large and succulent and produces abundant forage. It is preferred to Guinea grass which grows under about the same conditions. I found the same grass again in the Perene Valley of central Peru at an altitude of about 2,000 feet. There it is called Maicillo and is used in competition with Guinea grass. It appeared again in the Yungas region of Bolivia. It is there called Cachi. In the intermediate altitude from 5,000 to 8,000 feet it was the only forage obtained for our mules while traveling. Throughout the region the grass is native and has been transferred to cultivation."

PYRUS spp. (Malaceae), Pear. From Chasiki, Athens, Greece. Scions presented by P. O. Anagnostopoulos, director, Horticultural Section. (See note under No. 59324, *Malus* Sp.) These pears are described as follows by Mr. Anagnostopoulos:

59325. "Kontoula." A highly esteemed summer pear, ripening from the first to the middle of July. Shape pyriform, size about 2 inches in length and diameter. Stem fleshy, one inch long; basin shallow. Surface light yellow, flesh juicy and of good flavor.

59326. "Skopelitico." A somewhat coarse-grained fruit, ripening from the middle of July to August first. Tree of medium size, fruit rather large (2 1/2 to 3 1/2 inches long and 3 to 4 inches thick), pyriform in shape, with a stem 1 3/4 inches long. Basin corrugated and fairly large. Surface yellow, blushed red on exposed side. A good shipping fruit, if gathered before it is fully ripe. It is also considered first class for canning.

59327. "Traconico." The winter pear of Greece, gathered in the autumn and kept until spring without cold storage. Shape pyriform, size medium (2 to 3 inches long and 1 3/4 to 2 inches in diameter). Basin very shallow, with calyx almost wanting. Flesh juicy and of good quality.

SOCRATEA EXORRHIZA (Phoenicaceae), 59279. **Palm.** From Rio de Janeiro, Brazil. Seeds presented by Prof. L. H. Bailey, Ithaca, New York. During his recent journey through southern Brazil, Professor Bailey was impressed by the beauty of this palm, and secured seeds for trial in Porto Rico, the Canal Zone and elsewhere. It may be possible to grow the species out of doors in extreme southern Florida. It is tropical in its requirements and will probably withstand no frost. The paziuba or pashiuba, as this palm is known in Brazil, is a tall-growing species, with a swollen trunk elevated upon a cone of cylindrical roots. It is said that these aerial roots sometimes grow to such height that a man can stand within the center of the cone, the tall tree rising above his head. The leaves are pinnate, with somewhat trapezoid leaflets jagged on one side. Both sexes of flowers are borne on the same palm. The fruit is roundish or eggshaped, and contains a single seed.

SPARTINA TOWNSENDI (Poaceae), 58986. **Grass.** From London, England. Seeds presented by Prof. F. W. Oliver, University College, London, through A. S. Hitchcock, United States Department of Agriculture. In transmitting this seed, Dr. Hitchcock says that Prof. Oliver considers *S. townsendi* a probable hybrid between *S. stricta* and *S. alterniflora*, the latter native to the shores of New Brunswick and Nova Scotia. It appeared at Hythe, Southampton, England, about 1879, and has spread rapidly on mud flats, reclaiming the land in many places. It is eagerly eaten by cattle and pigs, and is considered promising as a papermaking material, though Prof. Oliver states that the cost of harvesting has so far prohibited its exploitation for this purpose. Dr. Hitchcock is inclined to view the species as synonymous with *S. alterniflora*. It will be tested experimentally at various places in the United States, to determine its value as an economic plant.

TRIFOLIUM AFRICANUM GLABELLUM (Fabaceae), 58987. **Clover.** From Cedara, Natal, Union of South Africa. Seeds presented by W. S. Hall, assistant



PÈRE LOUIS, AN EXCELLENT DWARF MANGO

(*Mangifera indica* L.; see S. P. I. No. 51605)

In those parts of Florida where mango trees are likely to be injured by frosts, dwarf varieties admitting of relatively easy protection are particularly desirable. Three which have been introduced by the Office of Foreign Seed and Plant Introduction from the West Indies combine this characteristic with good quality of fruit. They are Père Louis, Julie, and D'Or. The fruit of Père Louis, illustrated above, weighs 6 to 8 ounces; it is greenish yellow, almost fiberless, and of rich, pleasant flavor. (Photographed by David Fairchild, Plant Introduction Garden, Miami, Fla., May 10, 1922; P27708FS.)



JULIE, A DWARF MANGO FROM THE WEST INDIES

(*Mangifera indica* L.; S. P. I. No. 26125)

Like Père Louis and D'Or, Julie is a variety which has been distributed from the French West Indies throughout other islands of the Antilles and brought from Trinidad to the United States. All these varieties have proved valuable in Florida, where they bear more regularly than many of the East Indian sorts and where their dwarf growth renders them easily protected during frosty weather. Julie is a medium-sized flattened fruit, weighing about 6 ounces. The surface is rose colored to yellow, and the orange flesh is free from fiber, juicy, and of rich flavor. (Photographed by David Fairchild, Plant Introduction Garden, Miami, Fla., May 10, 1922; P27709FS.)

experimentalist, School of Agriculture. The introduction of this perennial clover from Africa should prove of interest to agronomists in the Southern States and on the Pacific Coast. It is described as a vigorous grower; in experimental plantings it has been found to form thick swards capable of spreading and smothering other species of clover which were planted alongside. After three years the plots commence to deteriorate.

T. africanum is a hairy plant, with procumbent or prostrate stems and cuneate-oblong leaflets. The variety *glabellum* differs in having the leaves glabrous or sparingly hirsute, and the petioles, peduncles and calyces villous. Harvey (Flora Capensis) considers the variety an intermediate form between *T. africanum* and *T. burchellianum*. In Natal it grows in moist places along the banks of streams. We have no data at hand regarding the forage value of this clover.

XANTHORRHOEA PREISSII (Liliaceae), 59333. From Perth, Western Australia. Seeds presented by S. L. Kessell, Conservator of Forests, Forest Department.

This curious plant belongs to a remarkable genus of the Liliaceae, differing widely in general appearance from other members of that family. It has a short thick trunk, something like that of a palm; this is surmounted by a cluster of slender grasslike leaves 2 to 4 feet in length, from which rises a flower stalk 3 to 4 feet high suggesting in appearance that of the American cattail (*Typha*). The tender white center of the uppermost portion of the stem is rich in sugar, and is eaten by natives; the leaves are said to afford good fodder for cattle. The plant is known as "black boy" or "grass tree," the first because the persistent leaf-bases which surround the stem are sometimes burned by forest fires, leaving a charred trunk surmounted by a tall spike which suggests in appearance a black man holding a spear. Mr. Kessell believes that the plant may have economic value because of the sugar and the resinous gum it contains. The Southwestern States and Pacific Coast seem likely to provide conditions suitable for its cultivation.

Notes On The Behavior Of Former Introductions

AMYGDALUS PERSICA (Amygdalaceae), 43127. Ideal peach. From Avondale, Auckland, New Zealand. "The tree which I have of this variety is now two years old, and this year produced more than a bushel of peaches. It ripens from July 17 to 25, at the same time as Slappey, and about ten days earlier than Elberta. Compared with the latter it is superior in color, texture, and flavor, and more uniform in shape. It has the very valuable marketing quality of ripening practically all its fruits at the same time. The tree grows in a stiff, red clay subsoil with mulatto loam top soil. In my judgment this is an extremely valuable market freestone variety, with its high color and rich yellow flesh." (W. A. Slaton, Washington, Ga., July 21, 1924.)

CHAMAEDOREA ELEGANS (Phoenicaceae), 49373. Pacayito. From Tucuru, Alta Verapaz, Guatemala. "I read with a great deal of interest the note on the pacayito in the February 'Plant Immigrants.' My plant is now two and a half years

old; it is growing in loose soil with a heavy top dressing of well-rotted cow manure. It needs an abundance of water but requires good drainage. Last year, although it bloomed and formed new leaves, the continuous cold weather killed the tips of the lower leaves. I find the best place indoors is a corner of the living room away from the window; on warm days I put it on the porch where it gets the early morning sun for a short time. At present it is putting out two flower spikes." (Mrs. W. D. Diddell, Woodbine, Ga., June 17, 1924.)

MALUS SYLVESTRIS (Malaceae), 30229. **Helm apple.** From Columbia, Isle of Pines. "This blooms at the usual time here and bears, in summer, a medium-sized red-cheeked apple with white flesh of winey flavor." (Miss Alice Cooper, Maysville, S. C., May 28, 1924.)

PASSIFLORA EDULIS (Passifloraceae), 39955. **Passion fruit.** From Camarillo, Calif. "While the original vine received from the Department of Agriculture died last winter, a new vine raised from the seeds is now three years old, and covers a pergola about 200 feet square with a heavy mass of foliage. The crop of fruits this year will be about a bushel. The fruits are not in great demand here, but the juice is very popular as a flavoring for ice cream, ices, and for beverages. From a half bushel of fruits I obtained three pints of juice. It is possible that there is a commercial future for the juice if the industry could be fostered through county canning clubs. I find that the secret of raising this vine is to refrain from deep cultivation. Keeping the surface free from weeds and applying a top dressing gives the best results." (E. L. Aubuchon, Lakeland, Fla., July 5, 1924.)

PRIMULA BULLEYANA (Primulaceae), 55995. **Primrose.** From Heshwe, Yunnan, China. "This bloomed very freely last month and was certainly the loveliest primrose I ever have seen. Altogether there were in the tall candelabralike spike, forty of the delicately scented yellow flowers, orange-red striped on the outside of the petals." (Mrs. W. D. Diddell, Woodbine, Ga., June 17, 1924.)

A Promising Plum

(*Prunus spinosa* x *domestica*. S.P.I.No. 61224.)

In the winter of 1911, Frank N. Meyer was conducting agricultural explorations in Russia. He visited the province of Tambov, and at Koslov met a Russian, I. V. Mijurin, who was engaged in fruit breeding work on a somewhat extensive scale. Koslov is in latitude 52° where the winter climate is quite severe. Mr. Mijurin was giving special attention to the development of hardy plums, cherries, peaches, and related fruits. Mr. Meyer secured fourteen cuttings of a plum called Golden Reine Claude and they were received, numbered S.P.I. 32673, and sent to Chico, Calif., January 29, 1912. The variety was described as having fruit of medium size, spherical shape, and of a beautiful yellow color; juicy, sweet and spicy.

The fruits from the different grafted trees at Chico vary somewhat, the best being from Tree 4, Row 59, in the Test Orchard. J. E. Morrow, Superintendent of the Chico Plant Introduction Garden, under date of July 29, 1924, says of this plum:

"These, as you will note, are much larger and handsomer plums than those previously sent from Tree 1, Row 16. We believe this plum to have a place as a general all-purpose plum, that it is one that can be canned, dried or shipped. It has a very long season on the tree which permits of its being used in various ways. It is a decided freestone and consequently could be dried for home use if desired. It was canned here and found to be very good. Previous shipments have demonstrated it to be a good shipper. The only objection seems to be its small size and this could be improved by proper thinning. We believe it to be of decided merit and it should be further propagated. Plums of this same number on Row 58, Tree 4 are not so large. Propagation should be made only from the larger fruited tree on Row 59, Tree 4. The plums in this shipment are sufficiently large to allow of their being packed to advantage in commercial plum crates."

According to Mr. Meyer's original notes, this plum is the result of a cross between *Prunus spinosa* and *P. domestica*. Following is a brief description of the fruit from Tree 4, Row 59, to which it seems desirable, for the purposes of record, to give a new S.P.I. number:

No. 61224. *PRUNUS SPINOSA* X *DOMESTICA*. **Plum.** From Koslov, Tambov Government, Russia, December 28, 1911. A form developed at the Chico Plant Introduction Garden from one of the original fourteen cuttings received in 1911.

Fruit $1\frac{1}{2}$ to $1\frac{3}{4}$ inches in diameter; pale yellow mottled with brownish, irregular blotches; cavity small, shallow; suture more or less prominent; skin thick; flesh yellow, melting, very juicy and deliciously sweet; pit small, practically free.

B. T. Galloway.

Two useful Bamboos

While traveling in northeastern China during the spring of 1907, Frank N. Meyer, Agricultural Explorer of the Office of Foreign Seed and Plant Introduction, devoted particular attention to securing hardy bamboos. No timber bamboos were found near Peking, but he succeeded in finding some promising dwarf kinds which he thought would be useful on account of their hardiness. In June, 1907, Mr. Meyer made a trip into the Province of Chekiang, taking with him some of the hardy bamboos and leaving them in the care of the park superintendent at Shanghai. He was impressed with the kinds and quantity of bamboos in the vicinity of Tangsi, lying about 200 miles southwest of Shanghai; in this region the timber and edible bamboos grew to a great size and Mr. Meyer set about making a collection of them. In due course this was accomplished and the plants were also sent to Shanghai to be cared for until the next year when Mr. Meyer started home with them.

They were landed at the Chico, Plant Introduction Garden in June, 1908. The only survivors of this collection of 28 lots are three numbers which have been propagated and distributed during the past twelve or fourteen years under the following S.P.I. numbers and descriptions:

23233. PHYLLOSTACHYS NEVINII HUPEHENSIS Rendle.

From the vicinity of Tangsi, Chekiang, China. "(No. 301, autumn, 1907.)

TIMBER BAMBOO. Chinese name 'Mao tsoh.' The largest and most common kind; attains a height of 100 feet and a diameter at its base of 6 to 8 inches; grows only on mountain slopes, preferably in a rich red loam. Used in many ways; for instance, in the manufacture of big ladders, water pipes, gutters, tiles on roofs, construction material for large sheds, etc." (Meyer.)

23234. PHYLLOSTACHYS NEVINII HUPEHENSIS Rendle.

From the vicinity of Tangsi, Chekiang, China. "(No. 302, autumn, 1907.)

TIMBER BAMBOO. Second in size of the timber bamboos; grows in valleys and at the foot of mountains. Chinese name 'Tao tsoh.' This is utilized in furniture manufacture and for poles and boat-hook handles." (Meyer.)

23261. PHYLLOSTACHYS sp.

From Fengtai, near Peking, Chihli, China. "(No. 329, June 1, 1907, and March 31, 1908.) The so-called hardy bamboo, growing in gardens in and around Peking and Tientsin, where the climatic conditions are not what might be called favorable for the growth of bamboos. These plants may be trusted to be hardy as far north as Philadelphia, and can be grown commercially farther south, perhaps, to supply flower stakes. Chinese name 'Chu tse.'" (Meyer.)

These bamboos are all low-growing forms so that the original descriptions given two of them do not apply. Owing to this discrepancy, one of the bamboos, No. 23233, was recently given a new number, and a few short notes indicating actual size were published. It seems very probable that all the forms came from the north as they bear no evidence of the southern types.

From some recent studies it appears that No. 55713 (formerly No. 23233) and No. 23261 are identical, while No. 23234 is a distinct type. It also appears that the name *Phyllostachys nevinii hupehensis* given No. 23233 and No. 23234 is erroneous, as the description does not agree with our types. Following is a revised description of No. 55713:

55713. (23233 and 23261) PHYLLOSTACHYS NEVINII Hance.

From eastern China, probably Chihli Province. Received through Frank N. Meyer, Agricultural Explorer, June, 1908.

Culms 8 to 15 feet high, straight, tough, hard and flexible, and of a golden yellow color, sometimes approaching green, markedly flattened between the nodes with a ridge running through the flattened part; nodes or joints prominent with a rather sharp flaring rim above, dark smoky brown; internodes 6 to 10 inches long, shorter below near the ground; branches in pairs from each joint, each alternate branch longer and larger than its twin, yellowish like the culm, wiry and tough; leaves mostly single, on ends of slender purplish branchlets, slender with 5 pairs of secondary veins on each

side of the midrib, 3 to 3 1/2 inches long, one-third to one-half inch wide, glossy and shiny on the upper side, grayish or glaucous beneath; petiole short, base rounded, apex gradually tapering, often sharply acuminate; leaf sheaths dry, coriaceous, persistent, smooth, brownish, and frequently covered with faint smoky dark spots; mouth of leaf sheath not hairy; rhizomes slender, many jointed, pale yellow and extensively creeping.

Young culm sheaths on emerging from the ground are of a beautiful purplish color. At first the shoots are completely covered by the purplish, many-striped, culm sheaths. These clasp the culm firmly and are smooth except along the edges where they are clothed with very fine glistening hairs. The culm sheath is tipped with a long narrow tapering purplish appendix or pseudophyll, at the base of which are two winglike attachments, the auricles, tipped with several long tentacle-like purple hairs. The purplish ligule firmly clasps the sheath above it and is short with a wavy margin. When the culms get about 2 1/2 feet high the sheaths are no longer present so that the joints below as they emerge from the ground are smooth, green and shiny.

The bamboo we have carried in our records as No. 23234 differs from the last in several ways. It does not agree with any descriptions available but as it has not flowered here it seems inadvisable to give it a specific status. We have therefore called it *Phyllostachys Rom.* and append the following description: 23234. PHYLLOSTACHYS SP.

From eastern China. Received through Frank N. Meyer, Agricultural Explorer, June, 1908.

Culms straight, firm and tough, moderately thick walled, 8 to 15 feet high, greenish yellow, often marked with dark smoky blotches; nodes prominent, slightly fistulose, differing in this respect from *Phyllostachys nevinii*, surrounded by a narrow, grayish black band; internodes short, 4 to 6 inches long, flattened on alternate sides with a ridge running through the flattened portion; branches numerous, clothing the culms from top to bottom, proceeding from the nodes in pairs, nearly of the same length, therein again differing from *P. nevinii*, which has one branch smaller than its twin; branches rigid and tough, flattened between the joints; branchlets slender, wiry, usually a single one from each joint; leaves usually in threes, sometimes in fours, narrow, 3 to 4 inches long; midrib prominent, usually with 5 or 6 pairs of secondary nerves which show prominently on both upper and lower surfaces, dark green with little difference in color between upper and lower surfaces; leaf sheaths persistent, greenish, smooth, mouth covered with downy hairs; ligule downy, firmly clasping the sheath, upper margin wavy; auricles small; culm sheaths greenish yellow sometimes tinged with pink, thin, firmly clasping the culm, smooth, faintly veined, tipped with a narrow pseudophyll varying in length from 1 to 4 inches; throat of sheath smooth, ligules short, blunt, smooth. The young culms with their clasping sheaths are quite different from

those of *P. nevinii*, particularly in the absence of the tentacle-like hairs at the mouth, and the color, size and shape of the pseudophyll.

A strong-growing type with extensively creeping, slender, many-jointed wiry rhizomes.

These two useful bamboos, Nos. 55713 and 23234, are vigorous growers and are semihardy as far north as Washington, D. C. In suitable soils they have thrived and are hardy in all the South Atlantic and Gulf Coast States. No. 55713 is to be especially commended since it appears to be resistant to rust, a new disease that has recently attacked some of our bamboos. It also seems to be able to resist the *Phyllostachys* bamboo mite, a small creature discovered in our plantings at Brooksville 8 or 10 years ago and which has given us considerable trouble ever since. No. 23234 is subject to the attacks of both rust and mite. These bamboos lend themselves especially to farm use. They will furnish sources of forage for cattle and will supply a multitude of wants such as brush for peas, stakes and poles for tomatoes, pole beans and other climbing vegetables and ornamental plants, as well as light fences, canes, tool handles, etc. They are also useful for screening buildings and for low windbreaks. They grow and spread rapidly, forming an almost impenetrable thicket. As a protection for poultry they are admirable. The plants are easily propagated from the extensively creeping underground rhizomes, which should be lifted in early spring before growth starts. Rhizomes of the previous year's growth 12 to 15 inches long will contain 2 to 5 buds or eyes; if planted carefully in good garden soil and watered during dry periods, they should make fine plants by the following spring, when they may be lifted and set out for the establishment of permanent groves. For this purpose the ground should be deeply plowed and harrowed and the clumps set 8 by 8 feet. For the first year or two it is necessary to hand weed and hoe the plants so as to avoid tearing out the rhizomes; after this they will take care of themselves.

B. T. Galloway.

FOREIGN SEED AND PLANT INTRODUCTION

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